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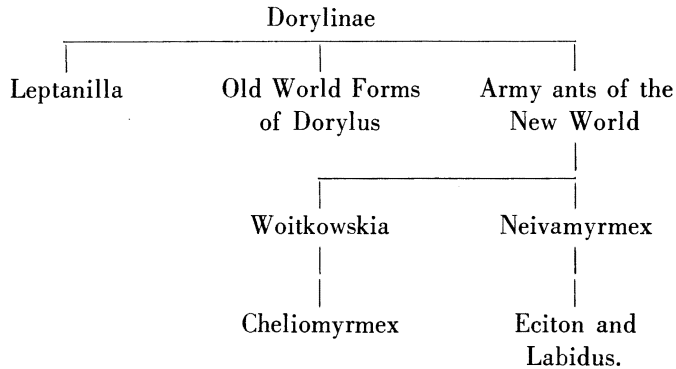
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Woitkowskia, a New Genus of Army Ants

By E. V. ENZMANN

The present paper deals with a new genus of army ants whose males seem to constitute a connecting link between the genera *Eciton* Latreille and *Cheliomyrmex* Mayr. The new genus *Woitkowskia* may put *Eciton* and its subgenus *Neivamyrmex* in a direct line of phylogenetic relationship with the genus *Cheliomyrmex*, and through the *Cerapachyini* with the *Ponerine* ants. The author assumes that *Neivamyrmex* and the new genus are closer to the ancestral stem of the *Doryline* ants than the more highly specialized subgenera *Eciton* s.str. and *Labidus*; the possible relationship of these ants is expressed in the appended diagram.



It will be of great interest to discover the unknown workers of the new genus *Woitkowskia*, for a study of their anatomical features will either confirm the foregoing theory or force its modification. The workers of the genus *Cheliomyrmex* resemble the *Ponerine* ants in having a one-jointed pedicel while the workers of *Eciton* possess a two-jointed petiole.

The series *Neivamyrmex-Labidus-Eciton* shows a curious parallelism to the series *Woitkowskia-Cheliomyrmex*; both contain small and slender-bodied species with strongly humped thoraces, which cause the heads of these insects to be displaced ventrally so it becomes invisible when the ants are viewed from above (*Woitkowskia* and *Neivamyrmex*). Both series also contain large sized and thick bodied species with weakly humped backs, so that the heads are visible from above (*Eciton* and *Cheliomyrmex*).

The author has not had the opportunity to examine all the known species of *Neivamyrmex*. Some of these (*E. lemoulti* Whlr. in lit,

not *Santschi*), as well as other species whose descriptions fail to give the necessary diagnostic features, may have to be assigned to the new genus *Woitkowskia*.

WOITKOWSKIA, GEN. NOV.

Generic Characters:

Male.—Slender species, small to medium in size (10-15 mm in length). Mandibles falcate, the hairs on the inner borders not arranged as regularly as in *Cheliomyrmex*. Thorax strongly humped, so that the head is displaced ventrally towards the thorax. *Anal plate four-pointed, as in Cheliomyrmex*. Claws simple or compound (two-pointed in some species, four-pointed in others). Hind femora not flattened as in *Cheliomyrmex*. The venation of the wings closely resembles that of *Cheliomyrmex*.

Geographical Distribution of the New Genus.

Peru, Bolivia, Mexico and probably the area between.

Genus type: Woitkowskia connectens.

Species List: W. connectens, W. kuertii, W. bureni, W. mexicana.

Key indicating the position of the new genus in relation to the other genera of American Army Ants.

1. Anal plate of the male 4-pointed2
- Anal plate of the male 2, or 3-pointed3
2. Large species; body robust and shaped as in the Old World Dorylines; head visible from above*Cheliomyrmex*.
- Small or medium sized forms; (10-15 mm in length) with the habitus of the genus *Neivamyrmex* Borgm.; head not visible from above....*Woitkowskia*, nov.
3. Tarsal claws with 4 points4
- Tarsal claws with two points*Neivamyrmex*.
4. Soldiers with hooked mandibles (except in *E. rapax*)....subg. *Eciton* s. str.
- Soldiers not with hooked mandiblessubg. *Labidus*.

Note. The males of *Eciton* s. str. and of *Labidus* can not be separated at present by satisfactory subgeneric characters. Several other subgenera have been erected by Santschi and by Borgmeier. The males of *Holopone* Sant. are characterized by their extreme pilosity arranged in tufts on the abdomen. Borgmeier's *Nomamyrmex* is not sharply separated from *Eciton* and should be dropped.

WOITKOWSKIA CONNECTENS, SPEC. NOV.

Male.—Length 10 mm. Color, black with a tinge of red. Head twice as long as broad. Mandibles relatively short; about $\frac{3}{4}$ the length of the anterior edge of the clypeus, strongly curved; sickle-shaped as in *Cheliomyrmex*, broader in the basal $\frac{1}{3}$ and with a sharp basal tooth in the inner border close to the insertion into the head; the basal tooth is followed by a series of minute denticles (no other species of *Eciton* known to the writer possesses this character). Finely punctate and subclucid; with sparse irregular and long hairs. Clypeus nearly straight in front. Frontal carinae strongly converge behind, forming a lamella median to the insertion; the lamella is carried along the anterior rim of the antennal fovea. In this location the antennal foveae have a short, semicircular inner carina. Another carina runs from the anterior edge of the fovea toward the midline and forms the anterior border of the frontal triangle. The latter is continued backward into the pit of the median ocellus by a deep sulcus. The frontal carinae are bent laterally in front of the median ocellus and reach the later ocellus. Ocelli very large, the lateral ones sep-

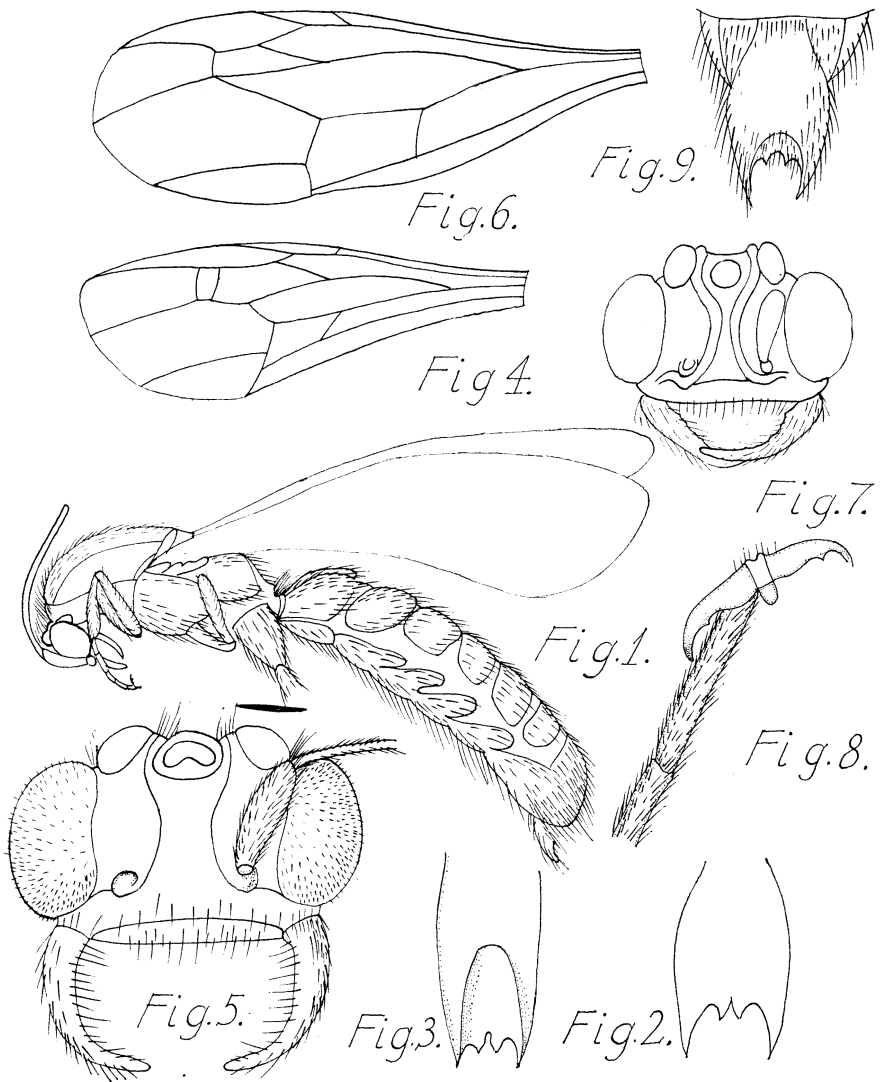


PLATE 1

- Figure 1. Lateral view of *Woitkowskia kuertii*.
 Figure 2. Anal Plate of *W. kuertii*.
 Figure 3. Anal Plate of *W. mexicana*.
 Figure 4. Wing of *W. connectens*.
 Figure 5. Head of *W. kuertii*.
 Figure 6. Wing of *Cheliomyrmex morosus*.
 Figure 7. Head of *W. connectens*.
 Figure 8. Tarsal claws of *W. mexicana*.
 Figure 9. Anal Plate of *W. connectens*.

arated from the compound eyes by a distance of less than half their diameter. Scapes stout, reaching the anterior rim of the lateral ocellus; thickest in the upper 1/3, densely clothed with short and erect hairs. First funicular joint short and triangular, second as long as broad, the following joints becoming longer and thinner. Head above faintly functate in places; polished and very shiny on the rest of the surface, especially on the frontal carinae.

Thorax elevated as in *Neivamyrmex*. Scutum elongate, with a distinct anter-median sulcus and with straight parapsidal furrows on each side, covered with a profusion of a adpressed long hairs which are more erect and longer on the sides of the thorax. Scutellum triangular with a rounded posterior point; flat above, with a faint postero-median impression, as in some of the species of *Neivamyrmex*. The profuse long hairs curve toward the midline. Epinotal base short, broad and flat, set off from the epinotum by a distinct but rounded edge.

Petiole rectangular, above with a faint median longitudinal elevation, its pilosity reclining and regularly arranged.

Gaster very slender, the intersegmental areas bulging, very smooth and shiny. The rest of the integument is transversely shagreened and is covered with dense, short and adpressed hairs; on the anterior edge of each inter-segmental membrane there is a row of longer hairs, reminiscent of the pilosity of *E. esenbecki*.

Anal plate with four distinct points, the inner pair shorter than the outer. Claws simple as in the genus *Neivamyrmex*.

Holotype in the authors possession.

Type locality: the border of Bolivia and Peru, from an unspecified locality. Other specimens have been found in the High Andes in the Satipo Area. Mr. Felix Woitkowski coll.

WOITKOWSKIA MEXICANA, SPEC. NOV.

Male:—Length 15 mm. Color reddish-brown, thorax a little darker brown, vertex and front blackish. Head twice as long as broad. Mandibles falcate, strongly curved, not as slender as in the species of *Cheliomyrmex*; broader at the base, tapering uniformly to the tips. Shallowly foveate and very shiny, with abundant long hairs, but the hairs on the inner edge of the mandibles are not regularly arranged as in the species of *Cheliomyrmex*. Clypeus weakly impressed in front.

Frontal carinae far apart, convergent behind, semierect, sharply margined medial to the antennal insertions; ending some distance in front of the median ocellus without forming either a crest or a tubercle. Ocelli very large, the lateral ones nearly touching the compound eyes, (removed from them by a distance less than 1/4 their diameter). Posterior edge between the lateral ocelli strongly marginate. Scapes short and thick, not reaching the anterior rim of the lateral ocellus; first funicular joint 1½ times as long as broad, the following joints becoming longer and thinner toward the apex. Head above not sculptured and very shiny, with moderately abundant long hairs.

Thorax is profile strongly humped. Prothorax elongate, with straight antero-ventral and parapsidal furrows, clothed with dense and rather short adpressed hairs. Scutellum triangular with a rounded median posterior point; the superior face with a median sulcus which runs the entire length as in *Eciton hopei* (The sulcus is visible only when the incident light is parallel to the direction of the pilosity). The hairs of the scutellum are long and dense and are curved toward the median sulcus, especially at the posterior end. The

pilosity is characteristic for all the known species of the genus *Woitkowskia*. The scutellum is similarly sculptured as the scutum, but the foveae are nearly absent and are replaced by very fine punctation. The hairs on the thorax sprout from distinct elevated points. The mesonotum is in front of a transverse torus with transversely impressed sides.

The epinotum is trapezoidal and its base and declivity are separated by an evenly rounded bulge. The petiole is characteristic for this species and serves to distinguish it from others. It is three times as long as broad with a widely and shallowly impressed anterior edge and a more deeply impressed posterior rim, giving it the outline of an hourglass; the sides are nearly straight and the corners are evenly rounded and very prominent. The upper surface of the pedicel bears a median bulge, forming a low hill in the center; the sides are also elevated. It is covered with medium-long, dense and regularly arranged and strongly adpressed hairs; the anterior edge of the pedicel and the posterior corners are ornamented with long hairs which curve inward to form a basket.

The gaster is very slender; its intersegmental membranes are transversely shagreened, bulging and very shiny; the rest of the integument is densely punctate and sublucid. The pilosity of the gaster resembles that of *W. connectens*. The legs are short and the hind femora are not flattened.

Holotype in the authors collection.

Type locality: Mexico, Chiapas, near Tuxtla; Gutierrez.

Mr. Kurt Heffner coll.

WOITKOWSKIA KUERTII, SPEC. NOV.

Male;—Length 14 mm. Much smaller than any of the known males of *Cheliomyrmex*. Head in front, mandibles dark reddish, posterior half of the head dark reddish-brown. Thoracic sutures and posterior edges of the abdominal segments not darkened. Head without the mandibles nearly twice as broad as long; eyes very large and convex, occupying the entire sides of the head; with sinusoid inner borders. Mandibles relatively short, shorter than the space between their bases; thick in the basal $\frac{1}{2}$, tapering in the apical $\frac{1}{2}$; smooth and shiny, with copious long hairs on the inner and outer borders. Scapes extending to the middle of the median ocellus, stout, thickest in the middle. First funicular joint as long as broad; all joints covered with dense, short, semi-erect hairs. Frontal carinae far apart, ending in front of the median ocellus in rounded elevations. The sharp carinae on the cheeks dark brown; in front with triangular fossae. The entire head smooth, with very few piligerous foveae on the vertex; shiny. Ocelli large, nearly touching the eyes (separated from the eyes by $\frac{1}{10}$ their diameter).

Prothorax very gibbous, the head barely visible from above, covered with dense, long and adpressed hairs. These hairs are much shorter than in the other species of *Woitkowskia*. Thorax very shiny.

Petiole broader than long and nearly flat above, excavated anteriorly and above; its lateral margins well marked but rounded; completely covered with short and adpressed hairs, except for the excavated part, which has long and erect hairs, and the posterior edge of the petiole, which is densely covered with long and backward directed hairs, hiding its general outline. e

Gaster very elongate, shiny, with small piligerous fossae. Subgenital plate short and stout with curved inner points.

Holotype in the authors possession.

Type locality: Vienna, Peru.

Mr. F. Voitkowski coll.

WOITKOWSKIA BURENI, SPEC. NOV.

Male;—Close to the species *W. kuertii* but larger. Length 15 mm. Color darker. The wings are brownish and have very dark brown veins. (In *W. kuertii* the veins are whitish). Head shaped as in *W. kuertii* but the lighter colored area on it is larger, leaving only the occiput dark colored. The entire head covered with abundant hairs. (in *W. kuertii* only the vertex with abundant hairs). Other characters as in *W. kuertii* except for the sculpture on the gaster. *W. bureni* has the segmental borders densely and finely punctate while in *W. kuertii* they are smooth and shiny.

Holotype in the authors possession.

Type locality: Satipo, Peru.

Mr. Woitkowski coll.

Key to the species of *Woitkowskia*.

1. Claws simple; small species, about 10 mm*W. connectens*.
- Claws compound, with four points, larger forms2
2. Petiole 3 times as long as broad, impressed above; eyes removed from the ocelli by less than $\frac{1}{4}$ the diameter of the latter*W. mexicana*.
- Petiole shaped differently; eyes and ocelli nearly touching3
3. Smaller form; length 14 mm; venation of the wings whitish; hairs less abundant on the head; segmental borders of the gaster not punctate....*W. kuertii*.
- With contrasting characters*W. bureni*

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